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APPROVED FOR RELEASE
DATE: APR 2005

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PAGE 1 OF PAGES

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TO: ROUTINE DIRNSA (USE AAZ),

AFSSO FTD, SSO DIA,

NPIC, SSO REDSTONE, NAVINTSUPCEN, SSO FSTC,

CONCEN WASHDC, SWS WASHDC.4

MICRO WEAPONS INTELLIGENCE DAIL. REVIEW NO 6178/79

11 SEPTEMBER 1979 CIA/wi/widrc 79-6178

1. PRC SCIENTIFIC SPACE PROGRAM SUFFERS SETBACK [redacted]

AFTER AT LEAST TWO MONTHS OF PREPARATIONS AT THE SHUANGCHENGZI MISSILE TEST CENTER THE PRC'S FIRST ATTEMPT TO ORBIT A TRUE SCIENTIFIC SATELLITE FAILED ON 27 JULY. [redacted] THERE WAS NO EVIDENCE THAT ANY FRAGMENT SURVIVED REENTRY. THE SATELLITE, FOR WHICH PLANNING PROBABLY BEGAN IN THE EARLY 70S, WAS REPORTED TO BE EQUIPPED WITH INSTRUMENTS TO MEASURE ENERGY FROM THE SUN AND THE EARTH'S MAGNETOSPHERE. THIS FAILURE IS A SIGNIFICANT SETBACK TO CHINA'S SCIENTIFIC SPACE EXPLORATION PROGRAM.

[redacted]

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PAGE 2 OF PAGES

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| 1 | 4 | 7 | 10 | 13 | |
| 2 | 5 | 8 | 11 | 14 | |
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DTG/SER

THEIR FIRST TWO SATELLITES ORBITED IN 1970 AND 1971 HAVE BEEN REFERRED TO BY THE CHINESE AS SCIENTIFIC SATELLITES. IN REALITY THEY WERE SMALL ENGINEERING TEST SATELLITES WHOSE MAIN FUNCTIONS WERE TO CHECK OUT TELEMETRY AND TRACKING SYSTEMS AND PERFORM PROGRAMMED OPERATIONS. SIX OTHER SATELLITES HAVE BEEN ORBITED BY THE PRC IN THE PERIOD BETWEEN 1971 AND 1979, BUT ALL OF THESE WERE DEVELOPMENTAL MILITARY RECONNAISSANCE TYPES [redacted] AS A PRELUDE TO COMMUNICATIONS AND METEOROLOGICAL SATELLITE LAUNCHINGS THE CHINESE APPARENTLY NOW HAVE DECIDED TO LAUNCH A SATELLITE FOR THE EXPRESS PURPOSE OF CHECKING OUT SOME OF THE SYSTEMS MORE APPLICABLE TO THESE SCIENTIFIC TYPES.

[redacted] 4

THIS SCIENTIFIC SATELLITE PROBABLY WAS THE RESULT OF PLANNING BEGUN IN 1973, BY A SPACE OBSERVATION DISCUSSION GROUP, HEADED BY ZHANG HEQI (CHANG-HO-HI) OF THE PURPLE MOUNTAIN OBSERVATORY. THE GROUP DESIGNED THE SATELLITE AND THE EXPERIMENTS IT WOULD CARRY OUT. THE EXPERIMENTS WERE TO INCLUDE MEASUREMENTS OF THE

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LIMITED CHANNELS

PAGE 3 OF PAGES

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TOP SECRET

MESSAGE HANDLING INSTRUCTIONS

OPCEN

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| 1 | 4 | 7 | 10 | 13 | |
| 2 | 5 | 8 | 11 | 14 | |
| 3 | 6 | 9 | 12 | 15 | |

ENERGY AND FLUX OF COSMIC RAYS OUTSIDE OF THE EARTH'S MAGNETOSPHERE, DETERMINATION OF THE TYPES OF PARTICLES EMANATING FROM THE SUN, MEASUREMENT OF THE ENERGY ATTENUATION OF PARTICLES, AND MEASUREMENT OF SOLAR GAMMA, ULTRAVIOLET, AND INFRARED RADIATION AS WELL AS THAT OF HARD AND SOFT X-RAYS. THE SATELLITE'S MAGNETISM EXPERIMENTS ALSO INVOLVED MEASUREMENT OF THE MAGNETOSPHERE OF THE EARTH AND THE INTERPLANETARY MAGNETIC FIELD. THE SPACE OBSERVATION GROUP ALSO PLANNED AN EXPERIMENT TO MEASURE VISIBLE LIGHT FROM THE SUN TO VERIFY THE SOLAR CONSTANT. THE GROUP PLANNED TO BUILD SEVERAL SATELLITE INSTRUMENTS INCLUDING A MICHELSON INTERFEROMETER FOR SUNSPOT STUDIES AND A PROTON MAGNETOMETER.

[redacted]

THE OVERALL EFFORT WAS TO INVOLVE THE LAUNCH OF TWO SCIENTIFIC SATELLITES AT ONE TIME. ONE OF THESE SATELLITES WAS TO WEIGH 250 KGS, BE HEXAGONALLY SHAPED AND BE EQUIPPED WITH THREE DEPLOYABLE SOLAR PANELS CAPABLE OF GENERATING 160 WATTS OF POWER. THE SECOND SATELLITE

DATE:
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AUTHENTICATING OFFICER

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SIGNAL CENTER USE ONLY

SDM 0 0 0 0 0 0 0

PAGE 4 OF PAGES

4

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MESSAGE HANDLING INSTRUCTIONS

NUMBER

OPCEN

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|---|---|---|---|---|---|
| 1 | 4 | 7 | 10 | 13 | |
| 2 | 5 | 8 | 11 | 14 | |
| 3 | 6 | 9 | 12 | 15 | |

WAS TO PERFORM SOME PROPAGATION EXPERIMENTS FOR FUTURE COMMUNICATIONS SATELLITE APPLICATIONS. THIS LATTER SATELLITE WAS TO WEIGH 400 KGS AND BE EQUIPPED WITH SOLAR PANELS.

4 BECAUSE OF THE RELATIVELY LOW PRIORITY THAT THE SCIENTIFIC SPACE PROGRAM APPEARS TO HAVE IN THE PRC, IT IS DOUBTFUL THAT THEY HAVE BACKUP SATELLITES ON HAND THAT COULD BE LAUNCHED IN THE NEAR FUTURE TO FILL THE VOID CAUSED BY THIS FAILURE. THEREFORE, THE 27 JULY LAUNCH FAILURE PROBABLY WILL CAUSE A SIGNIFICANT SETBACK IN CHINA'S SCIENTIFIC SPACE EXPLORATION PROGRAM.

DATE:
ORIG:
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PAGE 5 OF PAGES

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MESSAGE HANDLING INDIC

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DATE:
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PAGE OF PAGES

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PAGE 7 OF PAGES

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